

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO.

WASTE DISCHARGE REQUIREMENTS
FOR
RANCHO MURIETA COMMUNITY SERVICES DISTRICT AND
VAN VLECK RANCHING AND RESOURCES, INC.
VAN VLECK RANCH RECYCLED WATER REUSE AREAS
SACRAMENTO COUNTY

The California Regional Water Quality Control Board, Central Valley Region (hereafter Regional Water Board), finds that:

1. Rancho Murieta Community Services District and Van Vleck Ranching and Resources, Inc. (hereafter Dischargers) submitted a Report of Waste Discharge (RWD) on 22 May 2007 to apply for Waste Discharge Requirements (WDRs) for the reuse of recycled water produced by the Rancho Murieta wastewater treatment facility (WWTF). Supplemental information was submitted on 1 June 2007.
2. WDRs Order No. 5-01-124, adopted by the Regional Water Board on 11 May 2001, prescribes requirements for wastewater treatment and storage at the Rancho Murieta WWTF and the use of tertiary disinfected recycled water on two golf courses operated by the Rancho Murieta Country Club. The WWTF is depicted on Attachment A, which is attached hereto and made part of this Order by reference.
3. On 26 January 2006, the Regional Water Board adopted Cease and Desist Order (CDO) No. R5-2006-0001 for the Rancho Murieta Community Services District (RMCS D) and Rancho Murieta Country Club. Among other compliance issues, the CDO cited inadequate storage and disposal capacity at the RMCS D WWTF, and imposed new influent flow limitations based on the facility's then-current storage and disposal capacity. The CDO authorizes the Executive Officer to increase the influent flow limitation to the full design storage and disposal capacity if and when RMCS D disposes of excess wastewater currently in storage at the WWTF.
4. The Dischargers have entered into an agreement whereby RMCS D will supply tertiary disinfected wastewater for irrigation of pasture on portions of the Van Vleck Ranch, thereby reducing the volume of wastewater in storage at the WWTF. This Order prescribes requirements for the use of recycled water at the Van Vleck Ranch.
5. The Van Vleck Ranch recycled water reuse areas, which are owned and operated by Van Vleck Ranching and Resources, Inc., are located at 7897 Van Vleck Road near Rancho Murieta in Sacramento County. The reuse areas are in Sections 3, 9, 10, and 11, T7N, R8E, MDB&M (Assessor's Parcel Nos. 128-0080-007 and 128-0080-068), as shown on Attachment B, which is attached hereto and made part of this Order by reference.

6. RMCS D will manage the treatment, distribution and use of recycled water, and irrigation will be coordinated with the ranch manager to allow periodic grass cutting and cattle rotation.
7. This Order allows the reuse of recycled water at the Van Vleck Ranch for a limited term only (through ____ 2008) in order to comply with limitations imposed by Sacramento County. If the Dischargers wish to continue the discharge beyond that date, either this Order or WDRs Order No. 5-01-124 must be revised to regulate the discharge.

Proposed Discharge

8. The RWD states that recycled water will be reused on approximately 90 acres of pastureland on the Van Vleck Ranch. As shown on Attachment B, three separate reuse areas will receive the recycled water: Pasture 1 (49 acres), Pasture 2 (25 acres), and Pasture 3 (22 acres).
9. Recycled water supplied to the reuse areas will be treated to tertiary standards using oxidation, dissolved air flotation, and filtration. Tertiary effluent will be disinfected to achieve a 7-day median total coliform concentration of no more than 2.2 MPN/100 mL using chlorine. The RMCS D WWTF is regulated under WDRs Order No. 5-10-124 which prescribes requirements for the treatment, including effluent limitations.
10. Under Revised Monitoring and Reporting Program No. 5-01-124, RMCS D is required to monitor the treatment process and effluent quality. Additional monitoring was performed in May 2007 to support the RWD. The following table summarizes recent effluent monitoring results for RMCS D's tertiary disinfected effluent.

Constituent	Units	Analytical Result ¹
Total coliform organisms	MPN/100mL	<1.8 ²
Total dissolved solids	mg/L	270 to 330 ²
pH	Std. Unit	6.6 to 7.0 ²
Total Kjeldahl nitrogen	mg/L	1.2 to 2.0 ²
Ammonia nitrogen	mg/L	0.50
Nitrate nitrogen	mg/L	2.7 to 12 ²
Chloride	mg/L	66
Sulfate	mg/L	100
Sodium	mg/L	49
Hardness as CaCO ₃	mg/L	130

Constituent	Units	Analytical Result ¹
Alkalinity (all bicarbonate)	mg/L	36
Boron	ug/L	290

¹ Based on results for a single sample unless otherwise indicated.

² Based on results for three or more samples.

11. Recycled water will be applied to the pastureland via a temporary aboveground spray irrigation system. The irrigation system will be supplied by the WWTF equalization basin via an existing pump station that currently serves one of the Rancho Murieta Country Club golf courses. A dedicated flow meter will measure flows to the reuse areas.
12. Additional pumps used to distribute recycled water at the reuse areas will be equipped with over-current alarms. If a pipe should fail, the over-current alarm will automatically turn off the affected pump.
13. The approximate alignment of the main irrigation pipeline is depicted on Attachment B. All recycled water conveyance lines and valves will be clearly marked indicating that recycled water is being used.
14. The three reuse areas are graded to drain and collect tailwater at the bottom of the fields. Tailwater generation will be minimized by frequent inspections during periods of irrigation, and irrigation will only occur during normal RMCSO operating hours.
15. There are no nearby residences, public roads, or public lands. Access to the reuse areas will be further controlled by existing barbed wire fences. The RWD states that the reuse areas are at least 50 feet from the Van Vleck Ranch property line.
16. The RWD indicates that the pasture grasses will demand 40 inches of irrigation water during a normal year, or approximately 215 acre-feet. The reuse areas will generally not be irrigated between mid-October and mid-April, and approximately 5 to 8 inches of irrigation water will be required each month during a typical dry season.
17. The following table summarizes anticipated loading rates to the reuse areas for total nitrogen and dissolved solids (TDS). The loading rates were calculated based on effluent data from a single monitoring event in 2007 and an annual recycled water irrigation rate of 40 inches.

Constituent	Loading Rate (lbs/acre/year)
Total nitrogen	18
TDS	2,400

Because of the advanced treatment processes employed at the WWTF, biochemical oxygen demand loadings are expected to be minimal. The projected BOD loading rate is below the loading rate that typically causes objectionable odors and is unlikely to mobilize constituents in the subsurface. Total nitrogen loading rates will be below the demand of the existing vegetation and therefore should not impact groundwater quality.

Site Specific Conditions

18. Average annual rainfall for Rancho Murieta is approximately 25 inches per year, and the 100-year return total annual rainfall is approximately 45 inches per year.
19. The average bare soil evapotranspiration rate for Rancho Murieta is approximately 57 inches per year.
20. The two northern reuse areas are relatively flat, with slopes of up to two percent. The southern reuse area has moderate slopes ranging from two to 15 percent.
21. Soils at the reuse areas are characterized by the Soil Conservation Service as Sailboat silt loam (moderately slow permeability) and Vleck gravelly loam (slow permeability due to shallow claypan and cemented hardpan).
22. Based on Flood Insurance Rates Maps published by the Federal Emergency Management Agency, the majority of the proposed reuse areas are outside the 100-year flood zone. A portion of the southern end of the 22-acre reuse area is in the 100-year flood zone of Arkansas Creek (Attachment B).
23. No hydrogeologic investigation has been conducted at the reuse areas. However, WWTF monitoring wells OW1, OW2, and MW2 are near the northern boundary of the two northern reuse areas. Based on recent groundwater monitoring data for the WWTF, the shallow groundwater gradient is generally towards the southwest. OW1, OW2, and MW2, therefore, are downgradient of the WWTF and cross gradient of the proposed reuse areas. Selected groundwater monitoring data for the first quarter of 2007 are summarized below.

Constituent	Analytical Result ¹ (mg/L except as noted)		
	OW1	OW2	MW2
TDS	860	703	3,200
Nitrate nitrogen	<0.5	0.43	5.9
Chloride	111	93	116
Sodium	94	57	123
Sulfate	507	377	2,130
Iron	17	0.30	0.250

Manganese	1.5	1.5	1.1
Total coliform organisms, MPN/100 mL	<1.8	318	29
pH, standard units	3.98	3.96	4.83

¹ Average of three monthly results.

The low pH is typical of these wells and is likely a natural phenomenon. The extreme variations in overall salinity appear to be primarily due to the high concentration of sulfate in MW2.

Basin Plan, Beneficial Uses and Regulatory Considerations

24. The *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fourth Edition*, (hereafter Basin Plan) designates beneficial uses, establishes water quality objectives, contains implementation plans and policies for protecting waters of the basin, and incorporates by reference plans and policies adopted by the State Water Resources Control Board. Pursuant to Section 13263(a) of the California Water Code (CWC), waste discharge requirements must implement the Basin Plan.
25. Surface water drainage is to the Cosumnes River. The beneficial uses of the Cosumnes River, as stated in the Basin Plan, are municipal supply, agricultural supply; water contact recreation; noncontact water recreation; warm freshwater habitat, cold freshwater habitat; migration of aquatic organisms; spawning, reproduction, and/or early development; and wildlife habitat.
26. The beneficial uses of underlying groundwater are municipal and domestic water supply; agricultural supply; industrial service supply; and industrial process supply.
27. The Basin Plan encourages water recycling.
28. The Basin Plan establishes numerical and narrative water quality objectives for surface water and groundwater within the basin, and recognizes that water quality objectives are achieved primarily through the Water Board's adoption of waste discharge requirements and enforcement orders. Where numerical water quality objectives are listed, these are limits necessary for the reasonable protection of beneficial uses of the water. Where compliance with narrative water quality objectives is required, the Water Board will, on a case-by-case basis, adopt numerical limitations in orders, which will implement the narrative objectives to protect beneficial uses of the waters of the state.
29. The Basin Plan includes a water quality objective for chemical constituents that, at a minimum, requires waters designated as domestic or municipal supply to meet the maximum contaminant levels (MCLs) specified in the following provisions of Title 22, California Code of Regulations (CCR): Tables 64431-A (Inorganic Chemicals) and 64431-B (Fluoride) of Section 64431, Table 64444-A (Organic Chemicals) of Section

64444, and Tables 64449-A (Secondary Maximum Contaminant Levels-Consumer Acceptance Limits) and 64449-B (Secondary Maximum Contaminant Levels-Rangers) of Section 64449. The Basin Plan's incorporation of these provisions by reference is prospective, and includes future changes to the incorporated provisions as the changes take effect. The Basin Plan recognizes that the Regional Water Board may apply limits more stringent than MCLs to ensure that waters do not contain chemical constituents in concentrations that adversely affect beneficial uses.

30. The Basin Plan contains narrative water quality objectives for chemical constituents, tastes and odors, and toxicity. The toxicity objective requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in humans, plants animals, or aquatic life. The chemical constituent objective requires that groundwater shall not contain chemical constituents in concentrations that adversely affect beneficial uses. The tastes and odors objective requires that groundwater shall not contain tastes or odors producing substances in concentrations that cause nuisance or adversely affect beneficial uses.
31. Section 13241 of the Water Code requires the Regional Water Board to consider various factors, including economic considerations, when adopting water quality objectives into its Basin Plan. Water Code Section 13263 requires the Regional Water Board to address the factors in Section 13241 in adopting waste discharge requirements. The State Board, however, has held that a Regional Water Board need not specifically address the Section 13241 factors when implementing existing water quality objectives in waste discharge requirements because the factors were already considered in adopting water quality objectives. These waste discharge requirements implement adopted water quality objectives. Therefore, no additional analysis of Section 13241 factors is required.
32. Under the "Antidegradation" section, the attached Information Sheet lists the various waste constituents identified thus far as fitting the restriction of the Findings along with limits of each constituent necessary to maintain beneficial uses known to be adversely affected at certain concentrations of the waste constituent in groundwater. The listing identifies the constituent, the beneficial use, and its associated limit, as well as the technical reference for the limit. Some limits become less restrictive when the water supply is limited to certain applications of a beneficial use, but that requires additional factual information. Interim groundwater limitations for each constituent reflect the most restrictive listed limit for the waste constituent, except if natural background quality is greater, in which case background becomes the interim limitation.

Groundwater Degradation

33. State Water Resources Control Board (State Water Board) Resolution No. 68-16 (hereafter Resolution No. 68-16 or the "Antidegradation Policy") requires the Regional Water Board in regulating the discharge of waste to maintain high quality waters of the state until it is demonstrated that any change in quality will be consistent with maximum benefit to the people of the State, will not unreasonably affect beneficial uses, and will

not result in water quality less than that described in the State Water Board and Regional Water Board policies (e.g., quality that exceeds water quality objectives).

34. The Regional Water Board finds that some degradation of groundwater beneath the recycled water reuse areas is consistent with Resolution No. 68-16 provided that:
 - a. The degradation is confined within a specified boundary;
 - b. The Discharger minimizes the degradation by fully implementing, regularly maintaining, and optimally operating best practicable treatment and control (BPTC) measures;
 - c. The degradation is limited to waste constituents typically encountered in municipal wastewater as specified in the groundwater limitations in this Order; and
 - d. The degradation does not result in water quality less than that prescribed in the Basin Plan.
35. Some degradation of groundwater by some of the typical waste constituents released with discharge from a municipal wastewater utility after effective source control, treatment, and control is consistent with maximum benefit to the people of California. The technology, energy, water recycling, and waste management advantages of municipal utility service far exceed any benefits derived from a community otherwise reliant on numerous concentrated individual wastewater systems, and the impact on water quality will be substantially less. Degradation of groundwater by constituents (e.g., toxic chemicals) other than those specified in the groundwater limitations in this Order, and by constituents that can be effectively removed by conventional treatment (e.g., total coliform bacteria) is prohibited. When allowed, the degree of degradation permitted depends upon many factors (i.e., background water quality, the waste constituent, the beneficial uses and most stringent water quality objective, source control measures, and waste constituent treatability).
36. Economic prosperity of local communities and associated industry is of benefit to the people of California, and therefore sufficient reason exists to accommodate growth and some groundwater degradation around the recycled water reuse areas, provided that the terms of the Basin Plan are met. It is noted that RMCS D's only method of wastewater disposal is through water recycling.

Treatment and Control Practices

37. RMCS D provides treatment and control of the discharge to Van Vleck Ranch that incorporates:
 - a. Technology for tertiary treatment and disinfection of municipal wastewater;
 - b. Application of wastewater at agronomic application rates; and

- c. Certified operators to assure proper operation and maintenance of the WWTF and reuse areas.
38. This Order establishes interim groundwater limitations for the recycled water reuse that will not unreasonably threaten present and anticipated beneficial uses or result in groundwater quality that exceeds water quality objectives set forth in the Basin Plan. Because of the high quality effluent and the short-term nature of the discharge, groundwater monitoring is not required. If the dischargers subsequently obtain WDRs for a long-term discharge, groundwater monitoring may be appropriate.

Water Recycling

39. State Board Resolution No. 77-1, *Policy with Respect to Water Recycling in California*, encourages recycling projects that replace or supplement the use of fresh water, and *The Water Recycling Law* (CWC Sections 13500-13529.4) declares that utilization of recycled water is of primary interest to the people of the State in meeting future water needs.
40. The California Department of Health Services (DHS) has established statewide water recycling criteria in Title 22 CCR Section 60301 et. seq. (hereafter Title 22). RMCSD will treat the wastewater to tertiary standards and disinfect the effluent per Title 22 requirements.
41. A 1988 Memorandum of Understanding between DHS and the State Board on the use of recycled water establishes basic principles relative to the two agencies and the regional water boards. The Memorandum allocates primary areas of responsibility and authority between the agencies and provides for methods and mechanisms necessary to assure ongoing, continuous future coordination of activities relative to use of recycled water.
42. Section 60323(a) of Title 22 states that no person shall produce or supply recycled water for direct reuse from a proposed water recycling plant unless an engineering report is submitted for review and approval by DHS and the Regional Water Board. Irrigation of pasturelands used for grazing is considered a beneficial reuse. In May 2007, RMCSD submitted the required Title 22 Engineering Report to DHS and the Regional Water Board. The Title 22 Engineering Report was approved by DHS on ____.
43. DHS requires that the American Water Works Association (AWWA) Guidelines for Distribution of Non-Potable Water and Guidelines for the On-site Retrofit of Facilities Using Disinfected Tertiary Recycled Water be implemented in design and construction of recycling equipment. The guidelines require installation of purple pipe, adequate signs, and adequate separation between the recycled water lines and domestic water

lines and sewer lines. The Title 22 Engineering Report submitted by RMCSD describes specific design details for the irrigation system that were approved by DHS on ____ 2007.

Other Regulatory Considerations

44. The State Board adopted Order No. 97-03 DWQ (General Permit No. CAS000001) specifying waste discharge requirements for discharges of storm water associated with industrial activities, and requiring submittal of a Notice of Intent by all affected industrial dischargers. Industrial Storm Water permitting requirements do not apply to facilities irrigating agricultural lands with recycled water, therefore the Discharger is not required to apply for coverage under the NPDES general permit for storm water.
45. On ____, the Sacramento County Department of Environmental Review and Assessment issued an emergency exemption from the requirement to obtain a Conditional Use Permit to Van Vleck Ranching and Resources, Inc. The exemption was based on the landowner's belief that drought conditions will severely limit the availability of irrigation water, and that recycled water is needed to sustain the pastureland immediately. The exemption is temporary and will expire on _____. It is therefore appropriate that this Order expire on the same date.
46. On ____, RMCSD certified a Mitigated Negative Declaration for the recycled water irrigation project. Water quality-related mitigation measures incorporated are as follows:
 - a. _____

Compliance with this Order implements certain mitigation measures designed to minimize or prevent water quality impacts. However, compliance with this Order does not necessarily mean that all applicable mitigation measures have been implemented. RMCSD, as the lead agency, is responsible for ensuring compliance with all mitigation measures.

47. Section 13267(b) of the CWC states: *"In conducting an investigation specified in subdivision (a), the regional water board may require that any person who has discharged, discharges, or is suspected of discharging, or who proposes to discharge within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of discharging, or who proposes to discharge waste outside of its region that could affect the quality of the waters of the state within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the board requires. The burden, including costs of these reports, shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. In requiring those reports, the regional water board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports."*

48. The technical reports required by this Order and the attached Monitoring and Reporting Program are necessary to assure compliance with these waste discharge requirements. RMCSD owns and operates the facility that discharges the waste subject to this Order, and Van Vleck Ranching and Resources, Inc. owns the land to which the waste will be discharged.
49. The California Department of Water Resources sets standards for the construction and destruction of groundwater wells, as described in *California Well Standards Bulletin 74-90* (June 1991) and *Water Well Standards: State of California Bulletin 94-81* (December 1981). These standards, and any more stringent standards adopted by the state or county pursuant to CWC Section 13801, apply to all monitoring wells.
50. State regulations that prescribe procedures for detecting and characterizing the impact of waste constituents from waste management units on groundwater are found in Title 27 CCR. While the reuse area is exempt from Title 27, the data analysis methods of Title 27 may be appropriate for determining whether the discharge complies with the terms for protection of groundwater specified in this Order.
51. The discharge authorized herein is exempt from the requirements of Title 27 CCR Section 20005 et seq. The exemption, pursuant to Title 27 CCR Section 20090(a), is based on the following:
 - a. The waste consists primarily of domestic wastewater; and
 - b. The waste discharge requirements are consistent with water quality objectives.
 - c. The treatment facilities described herein are associated with a municipal wastewater treatment plant.
52. Pursuant to CWC Section 13263(g), discharge is a privilege, not a right, and adoption of this Order does not create a vested right to continue the discharge.

Public Notice

53. All the above and the supplemental information and details in the attached Information Sheet, which is incorporated by reference herein, were considered in establishing the following conditions of discharge.
54. The Dischargers and interested agencies and persons have been notified of the intent to prescribe waste discharge requirements for this discharge, and they have been provided an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
55. In a public meeting, all comments pertaining to the discharge were heard and considered.

IT IS HEREBY ORDERED that, pursuant to Sections 13263 and 13267 of the California Water Code, Rancho Murieta Community Services District and Van Vleck Ranching and Resources, Inc., and their agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted hereunder, shall comply with the following:

[Note: Other prohibitions, conditions, definitions, and some methods of determining compliance are contained in the attached "Standard Provisions and Reporting Requirements for Waste Discharge Requirements" dated 1 March 1991.]

A. Discharge Prohibitions:

1. The use of recycled water for irrigation is prohibited unless and until all reuse area improvements described in Finding Nos. 10 through 13 (inclusive) and 49 are completed, the Dischargers have submitted a report documenting the improvements, and the Executive Officer has issued written approval of that report.
2. Discharge of wastes to surface waters or surface water drainage courses is prohibited.
3. Discharge of waste classified as 'hazardous', as defined in Sections 2521(a) of Title 23 CCR Section 2510, et seq., (hereafter Chapter 15), or 'designated' as defined in CWC Section 13173, is prohibited.
4. Discharge or release of wastewater (including irrigation tailwater) outside of the recycled water reuse areas is prohibited.

B. Discharge Specifications:

1. Crops shall be grown on the reuse areas, and cropping activities shall be sufficient to take up all of the nitrogen applied, including fertilizers and cattle waste.
2. The volume of recycled water applied to the reuse areas on any single day shall not exceed reasonable agronomic rates based on the vegetation grown, pre-discharge soil moisture content, and weather conditions.
3. Hydraulic loading of recycled water and supplemental irrigation water shall be at reasonable agronomic rates designed to maximize uptake and breakdown of waste constituents in the root zone and minimize the percolation of waste constituents below the root zone.
4. Irrigation using recycled water shall not be performed within 24 hours of a forecasted storm, during a storm, within 24 hours after any measurable precipitation event, or when the ground is saturated.

5. Storm water runoff from the reuse areas may only be released to surface water drainage courses if the discharge is in compliance with Discharge Specification B.4.
6. The discharge of recycled water shall remain within the designated reuse areas (as described in Finding No. 5 and Attachment B) at all times.
7. The discharge of recycled water shall be managed to minimize erosion.
8. The recycled water areas shall be managed to prevent breeding of mosquitoes. In particular:
 - a. There shall be no standing water 48 hours after irrigation ceases;
 - b. Tailwater ditches must be maintained essentially free of emergent, marginal, and floating vegetation; and
 - c. Low-pressure and unpressurized pipelines and ditches accessible to mosquitoes shall not be used to store recycled wastewater.
9. Any tailwater ditches used to contain runoff shall be designed and maintained so that all tailwater flows to a single collection point in each reuse area.
10. The discharge shall not cause a condition of pollution or nuisance as defined by CWC Section 13050.
11. Objectionable odors originating at this facility shall not be perceivable beyond the limits of the reuse areas.
12. No waste constituent shall be released or discharged, or placed where it will be released or discharged, in a concentration or in a mass that causes violation of the Groundwater Limitations.

C. Effluent Limitations

1. Reclaimed water discharged to the reuse areas shall comply with the following limits for total coliform organisms:
 - a. The median concentration of total coliform bacteria shall not exceed an MPN of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed.
 - b. The number of total coliform bacteria shall not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30-day period.
 - c. The number of total coliform bacteria shall never exceed an MPN of 240 total coliform bacteria per 100 milliliters.

2. The turbidity of the WWTF filter effluent shall not exceed 2.0 NTU as a daily average; shall not exceed 5 NTU more than 5 percent of the time during a 24 hour period; and shall never exceed 10 NTU.

D. Recycled Water Specifications

1. RMCSO shall treat the wastewater so that it complies with Title 22 CCR, Section 60301.230 ("Disinfected Tertiary Recycled Water").
2. Recycled water shall be used in compliance with Title 22, Article 3 ("Uses of Recycled Water").
3. RMCSO shall operate all systems and equipment to maximize treatment of wastewater and optimize the quality of the discharge.
4. Application of recycled water shall comply with the following setback requirements:

<u>Setback Definition</u> ¹	<u>Minimum Irrigation Setback (feet)</u>
Edge of recycled water reuse areas to property boundary	25
Edge of recycled water reuse areas to public roads	50
Edge of recycled water reuse areas to irrigation wells	100
Edge of recycled water reuse areas to domestic wells	100
Edge of recycled water reuse areas to manmade or natural surface water drainage course ² or spring	25

¹ As defined by the wetted area produced during irrigation.

² Excluding ditches used exclusively for tailwater return.

5. Public contact with recycled wastewater at the reuse areas shall be controlled through use of fences and cautionary signs, and/or other appropriate means. Perimeter warning signs indicating that recycled water is in use shall be posted at adequate intervals along the property boundary and at each access road entrance. The size and contents of these signs shall be as described in Section 60310 of Title 22.
6. Recycled water controllers, valves, and similar appurtenances shall be affixed with recycled water warning signs, and shall be equipped with removable handles or locking mechanisms to prevent public access or tampering. The contents of the signs shall conform to Section 60310 of Title 22, and the DHS District Engineer's requirements. Each sign shall be in English and Spanish languages.

7. Quick couplers and sprinkler heads, if used, shall be of a type, or secured in a manner, that permits operation only by authorized personnel. Hose bibs and other unlocked valves shall not be accessible to the public.
8. Any connection between the recycled water conveyance system and any potable water conveyance system, groundwater supply well, or surface water supply source for the purpose of supplementing recycled water shall be equipped with a DHS-approved backflow prevention device.
9. Direct or windblown spray of recycled water shall be confined to the reuse areas, and shall not enter surface watercourses.
10. Spray irrigation of recycled water is prohibited when wind velocities exceed 30 mph.

D. Groundwater Limitations:

1. Release of waste constituents from the use of recycled water shall not cause groundwater under and beyond that system component, as determined by an approved well monitoring network, to:
 - a. Contain any of the following constituents in concentration greater than as listed or greater than ambient background quality, whichever is greater:

<u>Constituent</u>	<u>Units</u>	<u>Limitation</u>
Ammonia (as NH ₄)	mg/l	1.5
Boron	mg/L	0.7
Chloride	mg/L	106
Iron	mg/L	0.3
Manganese	mg/L	0.05
Sodium	mg/L	69
Total Coliform Organisms	MPN/100 mL	<2.2
Total Dissolved Solids ¹	mg/L	450
Total Nitrogen	mg/L	10
Nitrite (as N)	mg/L	1
Nitrate (as N)	mg/L	10
Bromoform	ug/L	4
Bromodichloromethane	ug/L	0.27

<u>Constituent</u>	<u>Units</u>	<u>Limitation</u>
Chloroform	ug/L	1.1
Dibromochloromethane	ug/L	0.37

¹ A cumulative impact limit that accounts for several dissolved constituents in addition to those listed here separately [e.g., alkalinity (carbonate and bicarbonate), calcium, hardness, phosphate, and potassium].

- b. Exhibit a pH of less than 6.5 or greater than 8.4 pH units
- c. Impart taste, odor, or color that creates nuisance or could impair any beneficial use.

E. Provisions

1. The following reports shall be submitted pursuant to CWC Section 13267 and shall be prepared as described by Provision E.2.
 - a. By **30 August 2007**, the Dischargers shall submit and implement an *Operation and Management Plan* (O&M Plan) that addresses operation of the reuse areas. At a minimum, the *O&M Plan* shall provide: a map that defines all the areas where recycled water is used, including berms or other features designed to prevent recycled water from running off the reuse areas; as-built irrigation system plans; complete operation and maintenance procedures for the reuse areas; and specific procedures for inspections and system adjustments or modifications to be made immediately upon discovery of any malfunction that threatens to cause a violation of this Order. A copy of the *O&M Plan* shall be kept at the facility for reference by operating personnel and they shall be familiar with its contents.
2. In accordance with California Business and Professions Code Sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. All technical reports specified herein that contain workplans for investigations and studies, that describe the conduct of investigations and studies, or that contain technical conclusions and recommendations concerning engineering and geology shall be prepared by or under the direction of appropriately qualified professional(s), even if not explicitly stated. Each technical report submitted by the Discharger shall the professional's signature and/or stamp of the seal.
3. The Discharger shall comply with Monitoring and Reporting Program No. ____, which is part of this Order, and any revisions thereto as ordered by the Executive Officer

4. The Discharger shall comply with the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements", dated 1 March 1991, which are attached hereto and made part of this Order by reference. This attachment and its individual paragraphs are commonly referenced as "Standard Provision(s)."
5. The Discharger shall use the best practicable cost-effective control technique(s) including proper operation and maintenance, to comply with discharge limits specified in this order.
6. As described in the Standard Provisions, the Discharger shall report promptly to the Regional Water Board any material change or proposed change in the character, location, or volume of the discharge.
7. The Discharger shall report to the Regional Water Board any toxic chemical release data it reports to the State Emergency Response Commission within 15 days of reporting the data to the Commission pursuant to section 313 of the "Emergency Planning and Community Right to Know Act of 1986."
8. The Discharger shall submit to the Regional Water Board on or before each compliance report due date, the specified document or, if appropriate, a written report detailing compliance or noncompliance with the specific schedule date and task. If noncompliance is being reported, then the Discharge shall state the reasons for such noncompliance and provide an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Regional Water Board in writing when it returns to compliance with the time schedule.
9. In the event of any change in control or ownership of the recycled water reuse areas, the Discharger must notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to this office. To assume operation as Discharger under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the state of incorporation if a corporation, the name and address and telephone number of the persons responsible for contact with the Regional Water Board, and a statement. The statement shall comply with the signatory paragraph of Standard Provision B.3 and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code. Transfer shall be approved or disapproved by the Executive Officer.
10. The Discharger must comply with all conditions of this Order, including timely submittal of technical and monitoring reports as directed herein or by the Executive Officer pursuant to CWC Section 13267. Violations may result in enforcement

action, including Regional Water Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.

11. A copy of this Order shall be kept at the WWTF and the Van Vleck Ranch. Key operating personnel shall be familiar with its contents.
12. This Order expires on ____ 2008. The Dischargers must obtain a Conditional Use Permit and file a Report of Waste Discharge no later than 180 days in advance of that date to apply for waste discharge requirements if they wish to continue the discharge without interruption.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on ____.

PAMELA C. CREEDON, Executive Officer